



Telecommunications Engineers

November 1, 2017

Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D. C. 20554

RE: WT Docket 17-200

Lockard & White ("L&W") is a telecommunications engineering firm that provides system planning, design, implementation management, and other support services to a wide variety of users in the Energy Sector (Electric Utilities, Oil & Gas Exploration, Production, Refining and Transportation companies). Many of our clients qualify as Critical Infrastructure Industry (CII) entities under the FCC rules.

While our clients leverage public wireless connectivity networks for some of their non-critical connectivity needs, our clients depend almost exclusively on privately owned and maintained networks, or on private carriers that are not open to all users and are therefore not typically subject to network congestion for their command and control networks.

A number of our clients are incumbents in the 900 MHz band, the subject of the WT Docket 17-200, and will be impacted by the outcome of any rule changes that may occur as a result future FCC actions relative to the 900 MHz band.

L&W has followed this proceeding since the original EWA/PDV Petition for Rule Making filed on November 17, 2014. During the last thirty-five plus months, L&W has been proactively engaged in assessing, with our clients and with pdvWireless, the potential impact of the proposed band reconfiguration on our clients.

L&W supported the original proposal by EWA/PDV released in late 2014. L&W believes that the proposed rules submitted by EWA/pdvWireless represent a useful starting point for the discussions at the FCC and within the user community. Our support of the original proposal was based on our clients' needs for access to broadband spectrum to build private/private carrier networks to support their wideband and broadband networks. The EWA/PDV proposal is the only significant proposal put forth in the last 20 years to offer the user community options for broadband.

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A significant majority of our incumbent clients are planning to implement wireless wideband and broadband networks over the next five years to meet their critical infrastructure network needs. Access to a private 900 MHz broadband network, as proposed by EWA/PDV, would enhance our clients' ability to reliably meet their operational needs and we encourage the FCC to move this process along expeditiously.

Challenges and Concerns

Band Realignment/Reconfiguration - L&W appreciates that any band realignment will involve some amount of disruption, for at least a percentage of band incumbents.

L&W concurs with all incumbent comments that any disruption of existing networks must be kept to a minimum and that incumbents who are required to relocate or reconfigure their systems must be provided equivalent spectrum and be reimbursed for all reasonable relocation/re-alignment costs.

Can all existing incumbents be moved to the proposed 2 x 2 portion of the band – The original EWA/PDV proposal was to reconfigure the band into two segments: A 2 x 2 MHz portion for narrowband Push-to-Talk (PTT) user traffic and a 3 x 3 MHz segment to support broadband. L&W supports this position, and believes this is a viable option that should be fully vetted. However, many incumbents have expressed concern about whether all incumbents can be “squeezed” into 2 x 2 portion of the band.

To evaluate the user/incumbent concerns expressed in their initial comments, PDV retained L&W to review frequency plans, prepared by PDV's spectrum planning team, to evaluate this incumbent concern.

Over the last 36 months L&W reviewed over twenty frequency plans in areas that are considered to be congested 900 MHz markets. Specifically, we reviewed frequency plans in the NJ/NYC/Long Island, Southern California, Seattle, Houston/South East Texas, Florida, and the Carolinas markets. The objective was to determine if it is possible to create viable, implementable frequency plans to accommodate all existing incumbents into the proposed 2 x 2 MHz band (896/935 MHz – 898/937 MHz). We utilized existing public data on existing networks as the baseline for the existing network.

All incumbents whose plans were evaluated were asked to participate, discuss and review the results. Many incumbents chose to interact, some incumbents chose not to participate.

Evaluation Results

The process is on-going, and open to any incumbent that would like to work with L&W/PDV, but to date there has not been any area of the country including (NJ/NYC/Long Island, Southern California, Seattle, Houston/South East Texas, Florida,

and the Carolinas) where the existing incumbents could not be accommodated in the proposed 2 x 2 MHz portion of the band based upon publicly available information or information provided by the participating incumbents.

The question we often get from incumbents is, how is this possible?

This is possible for two reasons: (1) improvements in RF frequency filters and combiner capabilities, and (2) the cooperation of the major SMR incumbent (generally PDV) in those markets who, as proposed in the rule making, would move out of the 2 x 2 (or swap) some of its channels in the 2 x 2 for the incumbent's channels in the proposed 3 x 3 portion of the band. In our experience many of the incumbents are unaware of the SMR allocated channels below 937 MHz and the proposals use of those channels to implement a comparable spectrum exchange with the incumbents. This is a misperception that L&W has been actively explaining to incumbents that are willing to meet with us.

This is not just an academic process. There are, as this is written, multiple major incumbents who agreed to visit with and work with PDV, that are now currently reviewing, or have recently completed channel swaps, and are moving forward with network reconfigurations. This includes one major electric utility in the NJ/NY corridor and several West Coast utilities. In addition, one west coast 900 MHz incumbent elected to participate in a channel swap with PDV that takes them completely out of the 900 MHz band. By using the SMR channels below 937 MHz, PDV has actually improved some of the incumbent channel positions in the swap and realignment process.

While the specifics of all negotiations are confidential, all of the channel swaps are public transactions and can be researched through the FCC ULS.

Will additional sites be required because of the close spacing of channels when everyone moves their PTT operations to the 2 x 2?

In the frequency and coverage plans reviewed by L&W & PDV to date there have been no coverage/filler sites needed. This is possible, as discussed above, because of improvements in RF filtering and combining capabilities combined with the availability broader spaced channels from the SMR incumbent's channels in the 2 x 2 portion of the band. In fact, one major incumbent in the Northeast corridor has achieved increased channel to channel spacing throughout its operating area as a result their decision to swap channels with PDV.

While there has been no evidence of the need for additional sites in our work to date, precedent exists in the rule making process for this to be addressed as it moves forward.

While there has been no evidence of the need for additional sites in the work performed to date, precedent exists in the rule making process for this to be addressed in the future if needed.

While there are challenges and concerns to be addressed, L&W believes the interest of the public and ALL 900 MHz incumbents will best be served by the Commission moving the originally proposed EWA/PDV proposal forward to an NPRM as recommended in 2015.

Respectfully,

A handwritten signature in black ink, appearing to read "Marcus J. Lockard". The signature is fluid and cursive, with the first name "Marcus" being more prominent.

Founder
Lockard & White, Inc.